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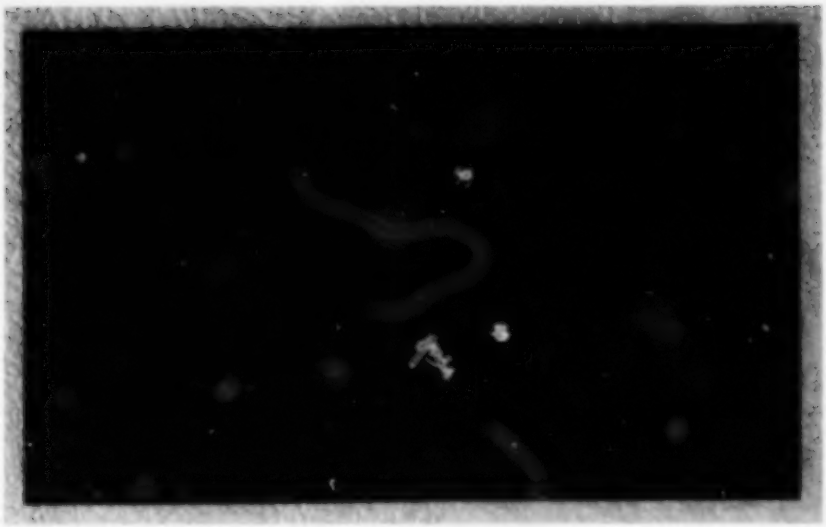

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SHIPPING'S FOURTH WAVE: SHIP MANAGEMENT AND VERNON'S TRADE CYCLES

by

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The 1970s and 80s were difficult decades for ocean shipping, characterized by declining markets and oversupply. The 1990s offer the hope of a significant recovery and even expansion in ocean shipping. A most important question is whether this recovery will take the form of a return to pre-crisis conditions with a hegemony of OECD shipping countries or whether shipping is irrevocably changed with new players replacing the old.

Shipping is losing its national character as ship management firms contribute towards the fractioning of traditional ship owning firms into separately managed activities. As part of this trend, new shipment management firms have emerged, making shipping more footloose as an industry and facilitating relocation in least cost factor markets.

The question raised in this paper is whether there are cycles in shipping that go beyond the usual business cycles and which could more appropriately be considered analogous to product or market life cycles observed elsewhere in the economy. In his paper "International Investment in International Trade and the Product Cycle", a classic in the literature on international trade, Vernon discusses the location of the manufacturing of new products. The interest attached to Vernon's work on international trade cycles is that it provides a rational explanation for the decline of shipping in the western world.

Mechanisms may be at work in shipping similar to those that have been observed in many industrial markets and which are far beyond the scope of any single government's ability to control or manipulate. The dispersion of shipping and shipping firms away from its historical concentration in a few traditional maritime powers towards low cost countries then appears to be more than a mere market adjustement. Rather, it must be seen as a manifestation of a secular trend, giving rise to a deep reorganization not only of shipping markets but of shipping itself. Herein lies the link between shipping cycles and the emergence of ship management firms as a catalyst for organizational change of a global nature in shipping.

Key words: ship management, ocean shipping, maritime transport, trade cycles and shipping.

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LA QUATRIEME VAGUE DU TRANSPORT MARITIME: LA GESTION DU TRANSPORT MARITIME ET LES CYCLES D'ECHANGES DE VERNON

Les années 1970 et 1980, caractérisées par les marchés en déclin et une offre excédentaire, furent des décennies difficiles pour le transport maritime. Les années 1990 offrent l'espoir d'une reprise significative du transport maritime, on dira même d'une expansion. La question principale est de savoir si cette reprise prendra la forme d'un retour aux conditions qui prévalaient avant la crise, i.e. une hégémonie des pays de transport maritime de l'OCDE, ou plutôt que le transport maritime soit transformé de manière irrévocable par l'introduction de nouveaux joueurs remplaçant les anciens.

Le transport maritime est en train de perdre son caractère national à cause, principalement, des compagnies de gestion de transport maritime qui contribuent à fragmenter les compagnies traditionnelles en activités administrées séparément. C'est cette tendance qui a amené la création de compagnies de gestion maritime qui font du transport maritime une industrie plus libre, facilitant la relocalisation vers les marchés où le coût des facteurs est le moindre.

La question soulevée dans ce rapport est de savoir s'il existe des cycles dans le transport maritime qui dépasserait les conjonctures habituelles et qui s'apparenterait davantage aux cycles de vie des produits observés ailleurs dans l'économie. Dans le rapport "International Investment in International Trade and the Product Cycle", un classique de la littérature des échanges internationaux, Vernon discute de localisation des manufactures de nouveaux produits. L'intérêt principal de ce rapport réside dans le fait qu'il nous apporte une explication rationnelle au déclin du transport maritime dans les pays de l'ouest.

Il est possible que des mécanismes, semblables à ceux observés à l'intérieur de plusieurs marchés industriels, soient à l'oeuvre dans le domaine du transport maritime et qu'un gouvernement particulier n'aurait pas les habiletés requises pour contrôler ou manipuler ceux-ci. La dispersion du transport maritime et des compagnies de transport maritime vers les pays à faibles coûts, s'éloignant ainsi de la concentration historique de quelques puissances maritimes, apparaît alors comme étant plus qu'un simple ajustement du marché. Il s'agit d'une tendance des temps qui entraîne une réorganisation, non seulement des marchés de transport maritime, mais du transport maritime en soi. On retrouve ici le lien qui rattache les cycles du transport maritime et l'émergence des compagnies de gestion maritime comme catalyseur au changement organisationnel, de nature globale, du transport maritime.

Mots clés: gestion du transport maritime, transports maritimes, cycles de vie du transport maritime.

Introduction

The 1970s and 80s were difficult decades for ocean shipping, characterized by declining markets and oversupply. The 1990s offer the hope of a significant recovery and even expansion in ocean shipping. A most important question is whether this recovery will take the form of a return to pre-crisis conditions with a hegemony of OECD shipping countries or whether shipping is irrevocably changed with new players replacing the old.

I have argued elsewhere that shipping is losing its national character as ship management firms contribute towards the fractioning of traditional ship owning firms into separately managed activities (1). As part of this trend, new ship management firms have emerged, playing an increasingly important role in the development of shipping markets and in the maintenance of the efficiency of such markets.

Trade cycles and shipping

The question I wish to raise in this paper is whether there are cycles in shipping that go beyond the usual business cycles and which could more appropriately be considered analogous to product or market life cycles observed elsewhere in the economy (2). Shipping today constitutes a relatively mature industry, characterized by a known technology, fairly slow market growth, and, generally speaking, standardized service. In other words, shipping has become a commodity.

Of particular interest to the case of shipping, are industry life cycles related to the propagation of products from national to international markets in general, and specifically from mature to developing economies. Vernon, in a classic paper entitled "International Investment in International Trade and the Product Cycle", discusses the location of the manufacturing of new products and subsequent changes in location patterns as

products become increasingly standardized over time (3).

Although Vernon's paper focuses on the location of the production of products that are new in a technological sense, his analysis is relevant to the case of shipping markets. In the following, location of the production of shipping services refers to the region from which key inputs, notably labor and management, are drawn. It is therefore useful to think of shipping as a "collection process" bringing together resources in order to perform a transportation service, which in itself is a footloose activity. However, this collection process which can be seen as the hub of a network, has a dominant location.

Initial location of production

Vernon argues that if one looks at industrialized countries in terms of general comparative advantage, one might assume they are all at roughly the same level, hence the discovery and location of the production of a new product may be assumed to be random. In reality, this may not be so because entrepreneurs depend heavily on communication and easy access to sources of research and scientific discovery. Knowledge is not a universally available free good. Therefore, entrepreneurs seek to locate close to sources of innovation.

Hoover has pointed out that industries in general tend to go through a phase of geographic concentration, later followed by a state of dispersion (4). An example of this phenomenon is the early concentration of electronic industries in Silicon Valley in California. Here the advantage offered by the location was a significant concentration of know-how and information within a very limited geographic area, giving rise to significant synergies among firms located in Silicon Valley. Subsequently new centers of production developed, and today the geographic dispersion of the electronics industry has reached a stage of advanced internationalization.

Also marketing reasons may contribute towards an initial concentration of production of new products. New products require extensive modification and development over time and each new customer may at first buy only in small quantities. It is therefore important to have a pool of potential clients nearby. In short, to be close to the market at the initial stage represents an essential strategic advantage allowing the firm to respond quickly to changes in demand and technological opportunities that arise with the development of the product.

An example: The initial "location" of containerized shipping

Applying Vernon's dynamic model of location of production, we may assume that historically shipping and new shipping firms were more likely to evolve either where there was closeness or proximity to sources of information about new and innovative maritime technology, or on the commercial side, easy access to cargo markets. Obviously the most outstanding example of such a phenomenon in recent times would be that of containerized maritime transport introduced in the United States in the 1960s by an American trucker, McLean (5). He possessed both extensive knowledge of the nature of American cargo markets, and of the unitization technology used for assembling and concentrating general cargo into more economic units of transport. Containerized maritime transport is a genuinely American innovation despite the fact the United States is generally seen as severely disadvantaged in international ocean shipping because of significantly higher labor costs than in other maritime nations. That containerization was introduced first in the United States is consistent with Vernon's argument that American producers are likely to be the first to spy opportunities for labor saving products or for products suited for high income areas. The latter point is also consistent with US introduction of containerization in that the United States is a major shipper of high value-added exports, products which are well suited for containerization.

At the introductory stage, the product is non-standardized in the sense that much technical and commercial experimentation will take place. As a result, there usually are several different models of the product available. In the case of container ships, the earliest vessels where simply modified general cargo vessels. When the first specialized containerships were built, there was no standard to build on. At the same time, container ports had to be developed jointly with users and suppliers of container services. In short, the industry at its early stages was in a state of flux as many new companies entered. Established companies providing conventional cargo services, either adjusted to the new reality or disappeared from the market. With time, however, a general product design and operations mode developed and the United States lost its initial leadership in containerized shipping.

Maturing products and footloose industries

The mature product is characterized by a considerable degree of standardization. There is less uncertainty about the future in the sense that the majority of users, actual or potential, will usually have accepted the existing product (or service) design as appropriate. This commitment to a certain type of technical standard will dramatically change the comparative advantage of suppliers of the product. While in the introductory stages, the main preoccupation was with technology and the development of a new market, in the maturity stage the concern over costs becomes predominant. As a result, firms will reconsider their location and the move towards low cost areas will begin. Industries originally tied to a specific point of production become footloose, seeking new least cost locations.

In the case of particularly mobile industries, such as ocean transport, the time between introduction of a new product in a given country and the emergence of foreign suppliers can be relatively short. In the case of container transport, European

firms responded quickly to the introduction of American-based containerized services, although there necessarily was a time delay because of the time required to develop new routines and systems. Developing countries were slower in responding to this trend for several reasons, among them, the nature of their cargo, the abundance of inexpensive labor, and the relative shortage of capital.

Over time their trade with the industrialized countries had for effect to introduce containerization also in developing countries. This was not always consistent with their needs. Rather, it reflected technological requirements of the industrialized countries which were dominant in these trades (6). However, before developing countries could get involved in the provision of containerized services, it was necessary for the containerized segment of ocean shipping to have reached a stage of sufficient maturity in its country of origin.

The search for least cost locations

In the general case presented by Vernon, the initial overseas production or supply of new products and services may be started by an American firm, setting up an overseas subsidiary in order to protect its own markets. The move to overseas production follows the recognition that the overseas subsidiary is in a position to produce what is by now a standardized product based on known technology at a lower cost than what can be achieved in the United States.

While this trend towards moving off-shore has been strongly resisted in the case of American flag liner shipping, it is not only common but even predominant in many American manufacturing industries. However, geographic dispersion does not affect all industries equally, depending on technological factors and specific market conditions. The same is true for ocean shipping. While the containerized segment of international shipping has

been less inclined to set up off-shore operations, we find that other kinds of shipping, notably in the bulk sector, have gone overseas in order to be closer to lower cost inputs. It is the very maturity of bulk shipping, i.e. its commodity nature, that has made this necessary. The concept of "flagging out" is analogous to the establishment by large multinational corporations of overseas subsidiaries. However, the impossibility of long term product differentiation in bulk shipping and the high degree of substitutability of highly mobile services make the search for least cost production systems even more essential in shipping than in manufacturing.

The shift from exporting to importing shipping services

Vernon predicts that production of standardized products will eventually decline in the United States which then becomes a net importer of the product. As we know, this is exactly what has happened in the case of shipping not only in the United States, but in practically all industrially advanced countries. While the western countries in general tend to be net exporters of services, the unique characteristics of shipping, both technologically and organizationally, has made it "a special case". In fact, the traditional maritime nations have all experienced a dramatic decline of the relative importance of their shipping. This trend coincides with such services increasingly being provided by developing countries.

In summary, the interest attached to Vernon's work on international trade cycles is that it provides a rational explanation for the decline of shipping in the western world. Thus, mechanisms may be at work in shipping similar to those that have been observed in many industrial markets and which are far beyond the scope of any single government's ability to control or manipulate.

The dispersion of shipping and shipping firms away from its

historical concentration in a few traditional maritime powers towards low cost countries appears to be more than a mere market adjustement. Rather, it must be seen as a manifestation of a secular trend, giving rise to a deep reorganization not only of shipping markets but of shipping itself. Herein lies the link between shipping cycles and the emergence of ship management firms as a catalyst for organizational change of a global nature in shipping (7).

Stages of maritime transport: shipping's first wave

Shipping, like all industries, is subject to constant change. The Hoover/Vernon life cycles for industry and trade were developed in a perspective of decades. In the case of shipping the historical perspective is much longer. Yet the key question is still whether there are major turning points of an irreversible nature in this industry. In the following, four stages or "waves" are identified in the evolution of shipping and its nature.

The history of shipping goes back to the beginning of civilization. Heyerdahl points out that man discovered water transport long before he put saddle on horse (8). This very early use of water transport characterized the development of many societies in the Mediterranean, Northern Europe, Polynesia, and elsewhere. It was an age of exploration, discovery and colonization which lasted for centuries, and in some cases, millenia. During this long, pioneering stage of shipping, it would be erroneous to refer to an international maritime transport system. Every region had its customs and rules and while this gave rise to the early beginnings of international law, maritime and commercial, there was no need to think in global terms. In fact, most navigators did not even realize the world is a globe. This may be considered the first wave of shipping in a fragmented world of regional conflicts. The realm of shipping was limited by the strength of the men at the oars

and the vagaries of the wind.

Shipping's second wave: the quest for maritime power

International maritime transport as a system of global scope is of recent origin in historical terms. Gold identifies the birth of the modern law of the sea with the time of Grotius (9). From the time of Grotius up to World War I and probably even beyond, it seems appropriate to describe international shipping in terms of the quest for maritime power. Indeed, it is interesting to note that a contemporary of Grotius, Sir Walter Raleigh, wrote in or about 1610 that

> "Whosoever commands the sea commands trade; who so ever commands the trade of the world commands the riches of the world, and consequently the world itself" (10).

This battle for the seas and the oceans was won by Britain. An extreme expression of British maritime dominance can be seen in statistics which show that in 1850, the British Empire controlled 82 percent of the world's steam shipping tonnage. In 1880, this share was still in excess of 70 percent (11).

Britain's dominance of world shipping would appear to be quite consistent with the trade cycle theory presented by Vernon above. Britain during the 19th century was the center for know-how of a wide range of technologies, including steam propulsion, steel processing and the working of metal sheets, expertise essential to the construction of steel vessels. Britain, at the focal point of the vast British Empire, was the center of world trade and London was the one place where access to market information, financial and commercial, was readily available.

Britain continued to provide a privileged location for shipping companies during the early stages of steam-powered shipping. London was to shipping what Silicon Valley became to

electronics a hundred years later. In fact, it might be argued that during the second wave of shipping, i.e., the development of a maritime transport system that increasingly englobed all continents, international shipping became synonymous with British shipping.

Flagging out: the third wave

At the end of World War II, international shipping was in the hands of a few maritime countries, often referred to as maritime powers. Some have claimed that following the postwar dismantling of old empires, the main question in shipping should be the elimination of colonial domination in favor of an increased role for developing countries in trade in general and in shipping in particular. In the 1960s, the United Nations adopted this view and developing countries placed great hopes in the creation of a New Economic International Order and the work undertaken by UNCTAD (12). This new order was to assure developing countries a much greater share of the world's economy through massive transfers of technology, new market arrangements and other measures aimed at an acceleration of growth in the Third World. Among the targets set at UNCTAD III in Santiago in 1972 for such development was a ten percent share of world shipping for developing countries by the end of the century (13).

As developing countries gradually gained a larger share in international shipping, their initial attempts to do so were hampered by the "flagging out" of shipping from western countries. Some have seen the growth of flags of convenience as yet one more example of the monopoly power of the old industrial countries and attempts to further exploit developing countries. Such a politico-economic interpretation may be understandable but can hardly be expected to capture the full reality and complexity of the problem. Potentially, what started as flagging out can become a sharing of work between developed and developing countries, allowing capital from industrialized countries to

combine with labor from developing countries.

By the early 1980s fully one-fourth of the world's gross register tonnage was in the category of flags of convenience. It allowed ship owners in the industrial world to maintain control of their fleets while at the same time benefiting from low cost labor. While simply flagging out does little to transfer maritime know-how to developing countries in the short run, its long term effect has been to create a significant pool of qualified seamen and gradually also of officers in such countries. As the flags of convenience increased their share of world shipping, so did the developing market economy countries and indeed at a faster rate.

Flagging out gave a new sense to the concept of international shipping. It demonstrated that shipping could take on a transnational mantle and seek out factors of production in countries other than those of the traditional maritime nations. The third wave of shipping can be seen as the transnationalization of shipping through flagging out and a greatly increased dependence upon manpower from the developing countries.

Modern ship management: the fourth wave of shipping?

Ship management or the delegation of one or several traditional ship owning activities to specialized firms, may at first appear to be a special case of flagging out. Although ship management is not a new industry or activity, its significance has changed notably over the last few years. The present role of ship management goes far beyond the concept of flagging out and it may be justified to refer to it as a new wave in shipping. The reason behind this is that ship management increasingly creates a genuinely new form of organization of shipping. While the use of flags of convenience may leave the entire management function in the hands of the shipowners or

their disponents, modern ship management involves a far greater delegation of operations and management responsibility.

Some have seen the increased role of ship management firms as yet another expression of the tenacity of western capitalism finding new ways of maintaining their presumed dominance in world shipping. Williamson has said that "until very recently the primary economic explanation for non-standard or unfamiliar business practices was monopoly" (14). Instead, he maintains that such unfamiliar business practices, far from reflecting monopoly or monopolizing, may constitute desirable and optimal organizational adaptation to a new environment, and that "greater respect for organizational (as against technological) features and for efficiency (as against monopoly) purposes is needed" (15). It is in this sense that ship management firms in their present form represent a genuine innovation. Ship management firms constitute an efficient, organizational adjustment to the conditions of a global shipping market.

The transfer of management from conventional shipowners in OECD countries to special ship management firms constitutes a parallel to the transfer of maturing manufacturing activites to the newly industrialized countries (NIC) which have demonstrated such great success in adopting and adapting western technology to the resources of the developing countries. The modern ship management company has developed expertise in operating efficiently with low cost labor while drawing on western technology and capital, thereby contributing to the development of new, more efficient factor markets. This may become the fourth wave of shipping.

The redistribution of flags 1981-1986

The changes in the world's maritime transport system have been dramatic in the 1980s. Indeed, the changes between 1981 and 1986, a short span of only five years, were far more radical than

those occurring between 1970 and 1981 as can be seen in Table 1.

In 1970, the merchant fleets of OECD countries represented close to two thirds of the world's tonnage. If open registry (flag of convenience) countries, primarily owned and controlled by citizens of OECD countries are included, more than four fifths (82.7 percent) of world shipping could be said to be controlled by OECD countries. By 1986, OECD's share of international

Table 1

COMPOSITION OF THE WORLD'S MERCHANT FLEET
BY DIFFERENT ECONOMIC ENVIRONMENTS

Environment	Mid-1970 Million grt(1)	Mid-1970 % of world tonnage	Mid-1981 Million grt	Mid-1981 % of world tonnage	Mid-1986 Million grt	Mid-1986 % of world tonnage
OECD Countries(2)	147.1	64.7	213.5	50.7	159.0	39.3
Open Registry Countries (3)	41.1	18.0	104.9	24.9	111.2	27.5
USSR/ Eastern Europe(4)	18.6	8.2	32.2	7.7	34.9	8.6
Developing Market Economy Countries	17.5	7.7	59.3	14.1	82.4	20.3
Rest of the World(5)	3.3	1.4	10.9	2.6	17.4	4.3
World total	227.6	100.0	420.8	100.0	404.9	100.0

(1) GRT = gross register ton.
(2) Including Great Lakes Fleets of Canada and the United States.
(3) Cyprus, Lebanon, Liberia, Panama, Oman, Bahamas (from 1976) and Vanuatu.
(4) Albania, Bulgaria, Czechoslovakia, Germany (Democratic Republic), Hungary, Poland, Romania, and USSR.
(5) Bermuda, Cuba, China (PR), Faroe Islands, Falkland Islands, Gibraltar, Israel, North Korea, Monaco, South Africa, Vietnam.

Source: Lloyd's Register of Shipping. Here quoted from OECD. Maritime Transport 1984. Paris, 1985, p. 63 and Maritime Transport 1986. Paris, 1987, p. 66.

shipping, whether directly under their own flag or indirectly under open registry flags, had diminished to a combined total of two thirds of world tonnage (66.8 percent).

The socialist (Comecon) countries maintained their share at close to eight percent throughout the 1970-86, thus effectively contradicting those who in the past maintained that the Communist bloc would succeed in developing merchant shipping as a major international policy instrument, pursuing an extensive infiltration of the world's trade routes.

The developing market economy countries was the group which achieved the most spectacular growth, increasing their share of world shipping from 7.7 percent in 1970 to 20.4 percent in 1986. In absolute terms we observe nearly a five-fold increase in tonnage over a 16 year period. Taken together with the open registry fleet, which shares a significant characteristic with the fleets of the developing countries, namely that the crews manning the vessels under their flags are predominantly from developing countries, one finds that fleets relying primarily on manning from low income countries, constitute close to one half of the world's tonage (47.9 percent in 1986).

The rise and decline of maritime nations

Table 1, dealing in highly aggregate numbers, fails to reveal the dramatic nature of the changes on the national level. Table 2 provides figures by country for those with fleets in excess of 4 million gross register tons in 1981 or 1986, a total of 25 nations. The table shows the changes in fleets over the five year period 1981-86. The picture which emerges is that of an industry in major upheaval with highly significant changes in geographic distribution. In fact, it is difficult to imagine equally important changes in any manufacturing over such a short time span. In fact, in 1987 the United Kingdom fleet had fallen to only 25.6 percent of its 1975 level and Norway's fleet

Table 2

RISE AND FALL OF SHIPPING NATIONS 1981-86

Country	Mid-1986 million grt(1)	Mid-1981 million grt	Change 1981-86 percent
1 Liberia	52.7	74.9	- 29.4
2 Panama	41.3	27.7	49.1
3 Japan	38.5	40.8	- 5.4
4 Greece	28.4	42.0	- 32.4
5 USSR	25.0	23.5	6.4
6 United States	20.0	18.9	5.8
7 China (PR)	11.6	7.7	50.6
8 United Kingdom	11.6	25.4	- 54.3
9 Cyprus	10.6	1.8	488.9
10 Norway	9.3	21.9	- 57.1
11 Hong Kong	8.2	2.6	215.4
12 Italy	7.9	10.6	- 25.5
13 South Korea	7.2	5.1	41.1
14 Philippines	6.9	2.5	176.0
15 India	6.5	6.0	8.3
16 Singapore	6.3	6.9	- 8.7
17 Brazil	6.2	5.1	21.6
18 Bahamas (2)	6.0	-	-
19 France	5.9	11.5	- 48.7
20 West Germany	5.6	7.7	- 27.3
21 Spain	5.4	8.1	- 33.3
22 Denmark	4.7	5.0	- 6.0
23 Netherlands	4.3	5.5	- 14.0
24 Taiwan	4.3	1.9	126.0
25 Sweden	2.5	4.0	- 37.5
Subtotal	336.9	367.1	- 8.2
World	404.9	420.8	- 3.8

NOTE: Included in table are countries with more than 4 million grt in 1981.

(1) grt = gross register ton

(2) Bahamas fleet in 1981 was listed by OECD with "rest of world" having a fleet of less than 350,000 grt.

Source: OECD. Maritime Transport 1981, and Maritime Transport 1986. Paris 1982, and 1987, Table XV(a).

fell a remarkable 58.5 percent from 1985 to 1987 (16).

Among the countries that experienced very rapid growth from 1982 to 1986, we find several open registry flags (Cyprus, almost

500 percent and Panama, 49 percent). More interesting, however, are the increases in the fleets of several developing countries which are building up national fleets, largely owned and controlled locally. Among them we find Hong Kong (up 215 percent), Philippines (up 176 percent) and Taiwan (up 126 percent). It would seem that Hoover's argument that industries go towards geographic dispersion over time is relevant also to shipping. In general, Table 2 reflects a dispersion of shipping away from the traditional maritime powers towards New Maritime Countries (NMC). They may not be new to shipping in a historic sense, but are new as major players in the world's shipping markets (17).

The emergence of NMCs - The New Maritime Countries

Table 3 represents a regrouping of figures presented in Tables 1 and 2. An interesting fact stands out. While the main OECD maritime countries experienced a decline of 28 percent in tonnage from 1981 to 1986, this figure is 40 percent when Japan and the United States are excluded, since these two countries declined by only 2 percent. This underlines the existence of two distinct blocs within OECD, the first being the highly protectionistic Japan and the United States. Both countries pursue strongly nationalistic shipping policies, especially for liner shipping. In the second group we find the traditional European maritime nations which finally appear to have accepted the inevitability of deep, structural changes in ocean shipping.

Table 3 also shows that while some open registry countries have experienced spectacular growth, most of it has been at the expense of other flags of convenience. Indeed, as these "paper flags" are easily interchangeable, it is not surprising that there is little stability in the "market shares" within this group (18). In the aggregate, the open registry fleets increased a modest six percent from 1981 to 1986. The group "Socialist States" grew by 17 percent over the same period. This increase,

however, was primarily attributable to China which increased its fleet by 50.6 percent, while that of the Soviet Union grew by 6.4 percent.

The NICs, the newly industrialized countries large enough to be included among the top 25 maritime nations in 1986, grew by a remarkable 52 percent over the five year period under review, about the same growth rate as for China. These NICs have already

Table 3

LEADERS AND LOSERS IN WORLD SHIPPING 1981-86

Economic group	Percent change in grt from mid-1981 to mid-1986	Share of world tonnage
World tonnage	- 4	100
Top 25 maritime nations (1)	- 8	83
OECD, 12 countries (2)	-28	36
Japan and United States	- 2	15
Western Europe (3)	-40	21
Open registry, four countries (4)	6	27
Socialist states: USSR and PRC (5)	17	9
NICs, 7 countries (6)	52	11

1) For countries included, see Table 2.
2) Countries included are: Denmark, France, Greece, Italy, Japan, Netherlands, Norway, Spain, Sweden, United Kingdom, United States, and West Germany.
(3) See note (2) above less Japan and United States
(4) Bahamas, Cyprus, Liberia, and Panama.
(5) PRC: People's Republic of China.
(6) Brazil, Hong Kong, India, Philippines, Singapore, South Korea, and Taiwan.

Source: OECD. Maritime Transport 1981, and Maritime Transport 1986. Paris 1982, and 1987, Table XV(a).

achieved status as manufacturing centers capable of making deep inroads into traditional markets for manufactured goods, just as Hoover and Vernon's models predicted they would. Some of these countries now appear determined to repeat their previous successes also in the field of shipping. In fact, the impact of these new maritime countries may be even greater in shipping markets than it has been in world markets for manufacturing. After all, shipping is far more footloose than most manufacturing.

The interesting question for the future is how the new structure of world shipping now emerging will evolve. The choices are clear. First, there is the ever present temptation to resort to government intervention, whether unilateral, bilateral or multilateral. Quota systems have been extensively used by western countries in their attempts to stem the flood of imported consumer goods. Multiple agreements, voluntary restraints and other trade policies have been applied, and generally the result has been costly, sometimes even more so for the country attempting to shelter its domestic market than for the exporter.

A second alternative, observed in shipping, is a twentieth century form of laissez-faire, involving off-shore operations and flags of convenience. While this has served a purpose in many bulk markets, it is an artificial solution brought about by differential tax systems and a desire to escape various constraints often imposed by national governments.

A third form of solution lies in a genuinely different form of market organization based on extensive use of specialized firms operating in the factor market. Ship management firms do for the factor markets (labor, bunker, even capital and ship construction) what shipbrokers do for the cargo markets. By combining product or factor knowledge with highly efficient communication systems and lean, flexible operating organizations,

such specialized firms contribute significantly towards increased efficiency and innovation in maritime transport. They also make it possible for western capital and marketing know-how to cooperate with developing countries rich in manpower and maritime skills.

Admittedly, it may appear utopic to plead for free markets in international shipping in a world full of nations pursuing short term gains for their respective citizens. However, it seems the markets have spoken. The past few years have demonstrated that when the chips are down, economics are stronger than politics in the case of shipping. As times get better, it would be sad indeed if the gains should be removed through subsidies, indirect or direct. A new maritime order has arrived. It is time to recognize this reality.

The danger is that western nationalistic policies of the past may become the new nationalistic policies of the NMCs. Perhaps it is better not to speak of "order" with its connotation of rigidity. Maybe it is preferable to think of present trends as a new wave - powerful yet fluid, always adjusting to its environment, yet also influencing it.

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